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ABSTRACT

Individuals of all ages need to maintain an active lifestyle to promote health. The physiological changes associated with aging, however, make the elderly especially vulnerable to disuse atrophy associated with inactivity. Exercise programs for the elderly are being established in increasing numbers, but high dropout rates from these programs threaten their usefulness. The decision to engage in appropriate physical activity is made by the consumer, not the program provider. A descriptive correlational research study was conducted to examine the activity levels of 118 non-institutionalized elderly volunteers. The study used Pender's Health Promotion Model as the conceptual framework. A 3-day activity record was used by subjects to record the metabolic unit values of activities performed during waking hours. The activity record was modified to include activities of daily living, household chores, inside leisure activities, and outside leisure activities. Findings revealed that age, marital status, and perceived health status explained 30 percent of the variance in activity scores. Subjects who were older, single, lived alone or in a retirement complex, had poorer perceptions of health, and believed that luck or chance influenced health were associated with lower activity scores and thus may be at special risk of disuse atrophy. This study suggests that Pender's Health Promotion Model is a useful model for nurses to use in health promotion research studies. (Author/ABL)

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THE RELATIONSHIP OF HEALTH LOCUS OF CONTROL, PERCEIVED HEALTH STATUS AND ACTIVITY LEVELS OF NON-INSTITUTIONALIZED ELDERLY CLIENTS

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by

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THE RELATIONSHIP OF HEALTH LOCUS OF CONTROL, PERCEIVED HEALTH STATUS AND ACTIVITY IN NON-INSTITUTIONALIZED CLIENTS

Abstract

Individuals of all ages need to maintain an active lifestyle to promote health. The physiological changes associated with aging, however, make the elderly especially vulnerable to disuse atrophy associated with inactivity. A descriptive correlational research study was conducted to examine the activity levels of 118 non-institutionalized elderly volunteers. The study used Pender's Health Promotion Model as the conceptual framework. A three day activity record was used by subjects to record the metabolic unit (MET) values of activities performed during waking hours. The activity record was modified to include activities of daily living, household chores, inside leisure activities and outside leisure activities. Findings revealed that age, marital status, and perceived health status explained 30 percent of the variance in activity scores. Subjects who were older, single, lived alone or in a retirement complex, had poorer perceptions of health, and believed that luck or chance influenced health, were associated with lower activity scores.

Aging is associated with a decline in physical and social activity in American society. Although activity is needed to maintain physiological and psychological functioning, there is a tendency for individuals to assume a sedentary life style as they grow older. The National Public Health Service (PHS) estimates less than 25 percent of all adults over 65 years of age engage in exercise regularly. Lack of physical activity has special ramifications for the elderly population in this country. Disuse atrophy associated with inactivity has been hypothesized to account for fifty percent of the physiological decline associated with aging (Bortz, 1982). Studies have shown that strenuous activity in the aged can result in increased cardiopulmonary fitness and that fairly low levels of activity can provide other physiological benefits including increased coordination, range of motion, joint flexibility and bone density. While evidence is lacking that physical activity is able to prolong the lifespan of the elderly, it is possible that physical activity can prevent the physical decline associated with disuse atrophy.

Exercise programs for the elderly are being established by universities, YMCA's, recreational centers and other agencies in order to promote increased activity in the elderly. Despite these efforts to engage the elderly and other segments of the population in physical activity, exercise programs have not been successful in the past and the drop out rate has approached fifty percent in many programs. Thus, while programs of physical activity and exercise may be increasing in numbers, the lack of continued participation by clients in these programs threatens

the usefulness of these programs. While the availability of exercise programs may have the potential to increase physical activity in the elderly, the decision to engage in an appropriate physical activity program is a decision that is made not by the providers of such programs but by the consumer.

This descriptive correlational study examines some of the variables that may be involved in making a decision to engage in a program of physical activity. Health promotion studies in the past have studied younger populations rather than individuals over 65 years of age. Nurses have a vested interest in studying health promotion in the elderly because elderly who are active generally are able to remain independent for longer periods of time and thereby prevent premature institutionalization.

Pender's Health Promotion Model (1982) was used as the conceptual framework to study the relationship of two psychosocial variables, health locus of control and perceived health status, with the health promotion behavior of physical activity. Demographic variables were also measured because Pender's model proposes that demographic variables (modifying factors) can influence health locus of control, perceived health status and health behaviors. Pender's model was chosen over the more popular Health Belief Model for several reasons: 1) Pender perceives health behaviors as not just disease avoidance behaviors (as in the Health Belief Model) but rather are self initiated actions that enhance health status in the absence of a specific health threat; 2) Pender proposes the goal of health

promotion is to sustain or increase the level of well-being, fulfillment and self-actualization and this is especially true in studying health promotion in the elderly; and 3) Health promotion behaviors in Pender's model are defined as continuous behaviors that are an integral part of a person's lifestyle.

Definitions

Health Locus of Control is a measure of belief that a person's health is determined by his/her own behaviors or is dependent upon luck, chance or powerful others. Operationally, health locus of control is measured by one's scores on the three subscales (internal, chance, powerful others) of the Multidimensional Health Locus of Control Scale (MHLC) developed by Wallston, et al (1978). Each subscale contains twelve questions having a Likert-type format with the items being summed for each subscale. Both validity and reliability were reported for the instrument which has been used in numerous research studies. An alpha reliability coefficient of .86 was reported in the literture.

Perceived Health Status is a integrative concept that reflects an individual's assessment and evaluation of his/her general health. It encompasses the four dimensions of physical, physiological, mental and social health. Operationally perceived health status was measured by one's scores on the General Health Rating Index, a 22 item Likert-type scale with an internal consistency of .90 (Davies and Ware, 1981).

Activity is defined as any goal directed, purposeful,

non-utilitarian movement which requires energy expenditure (MET value) by an individual. Metabolic units are one method of energy expended during various activities. One metaboic unit is equivalent to oxygen uptake at rest and has a nominal value of 3.5 ml O2/(Kg x Min). Operationally, activity was measured by mean scores on a 3-day activity record. The instrument used in this study was developed by a group of Canadian researchers led by Claude Bouchard and was reported to have an interclass reliability coefficient of .95 (Bouchard, et al, 1983). The instrument consisted of two parts, an activity record where subjects recorded the activity values for activities performed during waking hours, and a Table of Activities. The Table of Activities was modified to exclude work activities and to include self-care activities and household activities.

Many types of activities were included on the Table of Activities rather than just typical exercise programs of walking, swimming, and jogging. Rationale for this decision is that research has indicated that even mild activities of 3.0 MET have cardiopulmonary benefits in the elderly. Studies by Yeater & Martin (1984) and by Smith, Reddan & Smith (1981) reported increased flexibiity, coordination, increased bone density with activities ranging from 1.5 to 3.0 METS. Nurses are interested in more than just the cardiopulmonary benefits of physical activity.

Subjects

One-hundred and eighteen non-institutionalized elderly

clients participated in this study. Subjects were all ambulatory and retired. Twenty-seven were males and ninety-one were females. Seven were single, sixty-one were married, eleven were divorced and thirty-nine were widowed. All but three of the subjects were caucasian (race, as a variable of research interest, was dropped from the analysis of data). Sixty-two lived in single family houses, forty-three lived in retirement complexes and thirteen lived in apartments, condominiums or mobile homes. Fifty-nine lived with their spouse and fifty-three lived by themselves.

Ages ranged from 65 to 89 with a mean of 72.9 (S.D. 6.5). The level of education ranged from 5 to 25 years with a mean of 14.8 years (S.D. 3.4). Twelve percent had less than a high school education and 69 percent had more than a high school education. Incomes ranged from $3,600 to $66,600 with a mean of just over $19,000 (S.D. $1,255) and median of $15,004. Seven subjects had incomes of $5,000 or less and eight subjects had incomes of over $40,000. Triceps skinfold thicknesses ranged from 4 mm to 44 mm with a mean of 25.34 mm (S.D. 9.52).

Methodology

After obtaining informed consent, a 30-minute interview was held with each subject in his/her home. The demographic data was collected and instruments to measure Locus of Control and Perceived Health Status were orally administered. The 3-day activity record was explained to each client. Subjects were instructed to choose three days (two week days and one weekend

day) and to record the activity value for each activity performed during waking hours. Records were to be returned in a stamped, self-addressed envelope. Names of subjects did not appear on the activity records or any of the instruments. A code was used to match the activity record with the questionnaires obtained during the interview.

Findings

No relationships between perceived health status and any demographic variables were found. Perceptions of health were positively associated with internal health locus of control ($r=.31$, $p=.001$). Pearson product moment correlations were used to examine the relationships between deomgraphic variables and health locus of control subscales. Only the Chance Subscale of the Multidimensional Health Locus of Control Scale was significantly associated with any demographic variables. A higher chance score was associated with older subjects, unmarried subjects, less educated subjects, subjects living in a retirement complex, fewer years of residency and living alone (Table 1.).

Perceived health status was negatively correlated with age and education but positively correlated with income, males and being married. These associations failed to reach statistical significance however. No relationships between living arrangements and perceived health status were found. Subjects with an internal health locus of control were associated ($r=.32$, $p=.002$) with better perceptions of health.

Only nine subjects failed to return their activity records.

Five records were too incomplete to be counted. Thus, 105 records were utilized to examine activity. Mean activity scores ranged from 122.8 to 207.7 with a total group mean of 150 (S.D. 14.9). Overall, the total group mean indicated an average daily expenditure between MET categories 1.5 and 2.0. Pearson product-moment correlations were used to first examine the relationships between demographic data and mean scores. Significant findings revealed that higher activity scores were associated with younger subjects being married and residing in non-retirement settings (Table 2). No significant findings between activity scores and education, incomes, years of residency or triceps skinfold thicknessness were found.

Pearson correlations were also used to examine the relationships between activity scores and each of the three MHLOC subscales and Health Perception scores. Activity scores were negatively associated with the chance subscale indicating those subjects who believe health is dependent upon luck, chance or fate had lower activity scores. Subjects with higher health perception scores had significant higher activity scores than subjects with poorer perceptions of health.

A stepwise multiple regression analysis was performed to determine which of the variables contributed the most to the prediction of mean activity scores. Three variables---age, perceived health status and marital status explained 30 percent of the variance in mean activity scores in this study.

Discussion

This study provides some evidence that Pender's Health Promotion Model is a useful conceptual model for nurses to use in health promotion research studies. It may help provide explanation for people's decision to engage in health promotion behaviors. The study provides some evidence that individuals with a chance locus of control are associated with less likelihood of engaging in health promotion activities. Findings from this study also indicate that subjects who are married, less educated, live alone or in retirement complexes are associated with greater beliefs that luck or chance affects their health. These individuals may be of special risks for the disuse atrophy associated with lower levels of activity and may have implications for planning health promotion services.

There are several limitations of the study that affect the generalizability of these findings. First the sample was fairly homogeneous (white, well-educated and healthy) and 68 percent participated in a regular (at least twice a week) program of walking or exercise. Secondly, the use of a convenience sample limits the generalizability of this study to other populations of the elderly. Recommendations is made to replicate the study with a more heterogenous sample and to further test Pender's model using additional variables as specified in Pender's Model.

TABLE I

RELATIONSHIP OF CHANCE SUBSCALE AND

DEMOGRAPHIC VARIABLES

Variable	r	p
Age	.23	.01
Marital Status	-.22	< .05
Years of Education	-.31	.001
Place of Residence	.21	<.05
Years of Residency	-.18	<.05
Living Alone	-.19	<.05

N=105

TABLE 2

RELATIONSHIP OF ACTIVITY SCORES AND

CRITERION VARIABLES

Variables	r	p
Age	-.43	<.001
Marital Status	.33	.001
Type of Residence	-.33	<.01
Chance Subscale	-.25	.001
Health Perception	.33	.001

N=105

REFERENCES

Bortz, W.M. (1982). Disuse and aging. JAMA. 248 (10): 1203-1208.

Bouchard, C., Trembley, A., Leblanc, C. et al. (1983). A method to assess energy expenditure in children and adults. American Journal of Clinical Nutrition. 37 (3): 461-467.

Davies, A.R. and Ware, J.E. (1981). Measured Health Perceptions in the Health Insurance Experiment. Santa Monica, CA: The Rand Company.

Pender, N.J. (1982). Health Promotion in Nursing Practice. Norwalk, Conn.: Appleton-Century-Crofts.

Smith, E.L. Reddan, W. and Smith, P.E. (1981). Physical activity and calcium modalities for bone mineral increase in aged women. Medicine and Science in Sports and Exercise. 13 (1): 60-64.

Wallston, K.A., Wallston, B.S. and Devellis, R. (1978). Development of the multidimensional health locus of control (MHLC) scales. Health Education Monographs. 6(2): 160-170.

Yeater, R.A. and Martin, R.B. (1984). Senile osteoporosis: The effects of exercise. Postgraduate Medicine. 75 (2): 147-159, 163.